

Immobilization of Egyptian mongooses, *Herpestes ichneumon*, with a combination of ketamine and xylazine

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*Receipt of Ms. 21. 1. 1992
Acceptance of Ms. 17. 2. 1992*

Based on three immobilizations, BELTRÁN et al. (1985) suggested that dosages of 7 mg per kilogram of body weight of a combination of ketamine hydrochloride (KE) and xylazine hydrochloride (XY), could be enough to successfully immobilize free-ranging Egyptian mongooses, *Herpestes ichneumon*. However, MADDOCK (1989) needed higher dosages (36 mg/kg on average) of KE to immobilize 22 individuals of this same species. These results suggest that BELTRÁN et al. (1985) could not have actually immobilized their mongooses, and that higher dosages of anaesthetic should be administered for total immobilization. Here, we report the result of 48 total immobilizations of free-ranging Egyptian mongooses of different sex and age, using similar drugs and dosages to that of BELTRÁN et al. (1985).

Mongooses were captured between September 1987 and July 1989 with wire cage traps, cork double-door box for dens, or padded foothold traps (PALOMARES 1990). After the capture, mongooses were transported to the laboratory and moved into a box with a sliding wall that allowed us to inject intramuscularly a combination of KE (10 mg/ml; Ketolar) and XY (2 %; Rompun) into their hind quarters. An additional dose of KE, or KE and XY was administered when immobilization was only partial (SEAL and KREEGER 1987).

Induction time (time from injection until total immobilization) and arousal time (time from injection until first head, leg or mouth movement) were recorded for every individual. Rectal temperature records were taken as soon as practical after immobilization, and successive ones at 8–10 min intervals until handling procedures were completed.

We immobilized 26 different mongooses 48 times. We used mean dosages of 4.2 and 6.5 mg/kg of body weight of KE and XY respectively, irrespective of sex or age classes ($p > 0.05$; ANOVA; Table). Mean induction and arousal time were 7 and 74 min respectively (Table). Induction time and arousal time did not differ significantly among sex and age classes (Table). In 6 individuals, a mean dose of 3.9 mg/kg (SD = 0.7, range = 3.2–5.0) of KE and 6.0 mg/kg (SD = 0.9, range = 4.0–7.0) of XY was insufficient for total immobilization and complementary dosages of 2 mg/kg of KE and 2 mg/kg of XY were needed.

Rectal mean temperatures for the first, second, and third record were very similar (around 37.7°C; Table). No difference was observed among classes of individuals (Table).

Three individuals were immobilized on 4, 4 and 6 occasions at intervals of 4, 8, and 1.6 months, respectively. One was immobilized twice in 24 hours. No animal died during the immobilization or recuperation processes, and we never observed spasms or convulsions with muscular contractions, as were sometimes noted in other carnivores (e.g. BOYD et al. 1990). Vomits were frequent during the recuperation.

We successfully immobilized mongooses using similar and lower dosages of KE than those used by BELTRÁN et al. (1985) and MADDOCK (1989), respectively. MADDOCK (1989) sometimes used Acetipromacine as tranquilizer together with KE. Our results proved that a combination of KE and XY is an effective and safe immobilizing agent for Egyptian

Ketamine hydrochloride (Ketolar) and tiazine hydrochloride (Xilacine) dosages (mg/kg) administered, induction time (Ind. time), arousal time (Arous. time), and three successive records of rectal body temperature (Temp. 1, Temp. 2, Temp. 3) for adult females, adult males and young (in this group we included the data of two immatures individuals) of Egyptian mongooses

ANOVA values and probabilities from comparisons among classes of individuals are given as well

	Ketolar	Xilacine	Ind. time	Arous. time	Temp. 1	Temp. 2	Temp. 3
Females							
Mean (SD)	4.2 (0.9)	6.8 (1.6)	7.0 (4.3)	67.7 (34.7)	37.7 (1.2)	37.2 (2.1)	37.6 (1.4)
Range	2.3–6.8	4.9–11.7	3–17	27–151	36.1–40.0	36.0–39.9	35.4–39.9
N	20	20	20	18	14	14	10
Males							
Mean (SD)	4.3 (1.5)	5.8 (1.6)	7.4 (3.5)	99.0 (36.7)	37.7 (1.1)	37.3 (1.4)	37.4 (1.7)
Range	3.2–7.8	3.5–8.9	5–16	47–107	36.2–39.8	36.1–40.0	35.5–39.1
N	9	9	9	9	7	7	5
Young							
Mean (S)	4.1 (0.7)	6.8 (1.6)	5.3 (2.3)	65.3 (29.7)	37.9 (1.1)	37.9 (1.2)	38.0 (1.0)
Range	2.3–7.8	3.5–11.7	3–10	16–120	35.4–39.2	35.1–39.2	36.3–39.1
N	13	13	12	12	10	10	8
Total							
Mean (SD)	4.2 (1.0)	6.5 (1.4)	6.8 (3.7)	74.2 (35.6)	37.9 (1.1)	37.6 (1.2)	37.7 (1.3)
Range	2.3–7.8	3.5–11.7	3–17	16–170	36.1–40.0	35.1–40.0	35.4–39.9
N	42	42	41	39	31	30	22
ANOVA (F)	0.160	0.941	1.162	3.185	0.181	0.276	0.760
Probability	0.085	0.399	0.323	0.053	0.835	0.761	0.480

mongooses. Some advantages with ketamine use as an anaesthetic in wild carnivores are described in SMUTS and BRYDEN (1973).

Acknowledgements

The research was supported by CSIC and DGICYT (project PB87-0405). One of the authors (FP) has a postdoctoral grant of CSIC. We thank N. BUSTAMANTE for reviewing the English version.

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